Elk River Sediment TMDL Regional Water Board Workshop

October 1, 2009

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North Coast Regional Water Quality Control Board

CALIFORNIA Water Boards

Presentation Outline

I. Staff Presentation
- Background on existing sediment water quality standards
- Elk River TMDL Staff Report
- Public Workshop
- Schedule Update

II. Regional Water Board Questions

III. Public Comments

Elk River TMDL Background

- **303(d) listed as Sediment Impaired in 1998**
  - Impaired water supplies
  - Degraded fisheries habitat
  - Increased flooding
- **TMDL Development Underway**
  - Verified impairments
  - Developing recovery strategy
  - Draft Staff Report to support Action Plan
  - Draft TMDL Action Plan to be considered for Basin Plan Amendment

Elk River Designated Beneficial Uses

- Municipal Water Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Industrial Process Supply (PRO)
- Groundwater Recharge (GWR)
- Freshwater Replenishment (FRSH)
- Navigation (NAV)
- Hydropower Generation (POW)
- Water Contact Recreation (REC-1)
- Non-Contact Water Recreation (REC-2)
- Commercial or Sport Fishing (COMM)
- Cold Freshwater Habitat (COLD)
- Wildlife Habitat (WILD)
- Rare Threatened or Endangered Species (RARE)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Aquaculture (AQUA)

Recommended Designated Beneficial Uses

- Staff to recommend additional existing beneficial uses be designated in Elk River:
  - flood peak attenuation/flood water storage (FLD),
  - wetland habitat (WET)
  - water quality enhancement (WQE)

Sediment Water Quality Objectives

- **Suspended Material** - Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

- **Settleable Material** - Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

Sediment Water Quality Objectives

- **Suspended Sediment** - The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

- **Turbidity** -Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

Existing Waste Discharge Prohibitions

Action Plan for Logging, Construction, and Associated Activities

1. The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.

2. The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities which could be deleterious to fish, wildlife, or other beneficial uses is prohibited.

Nuisance Conditions

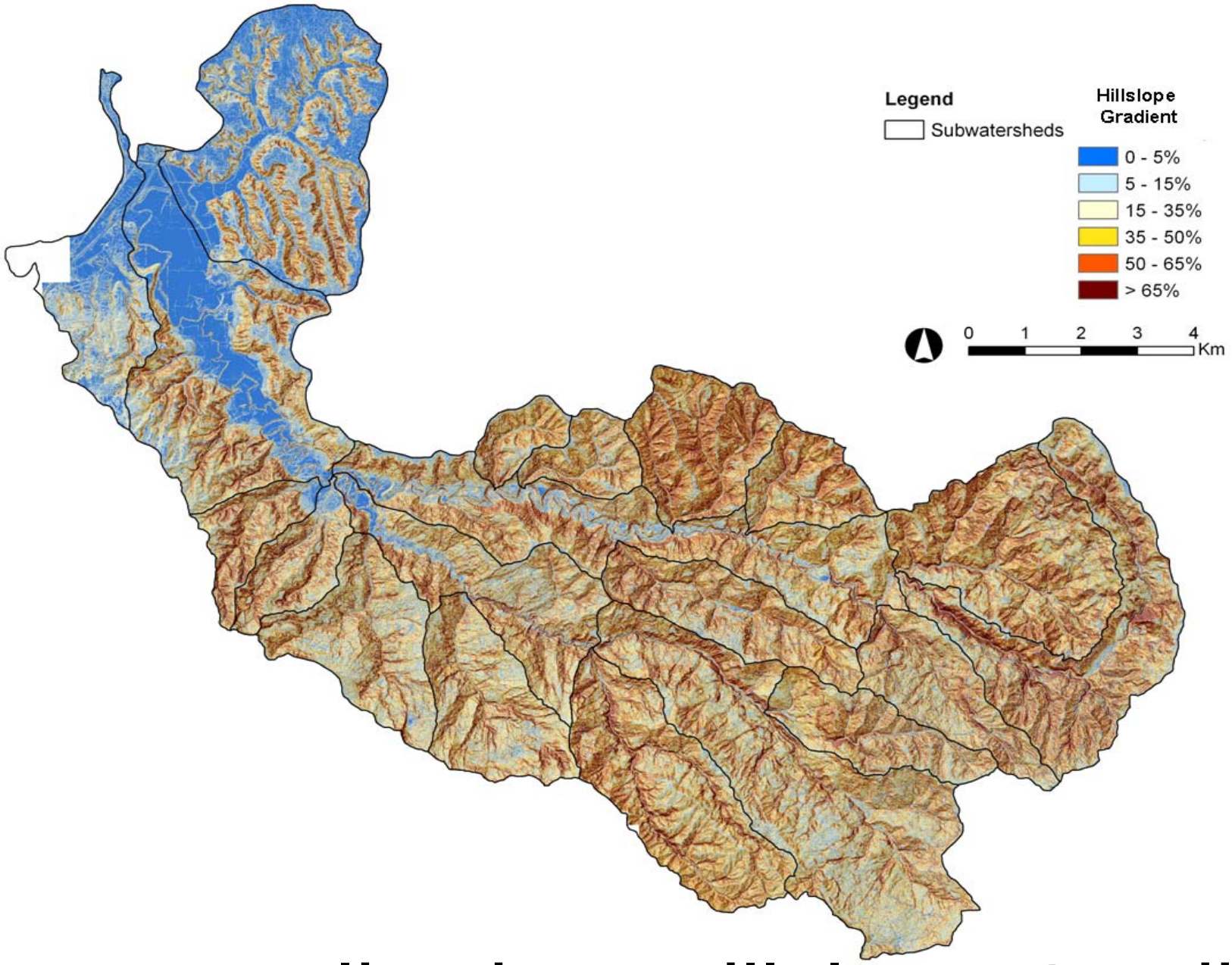
- (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- (3) Occurs during, or as a result of, the treatment or disposal of waste

(California Water Code section 13050.)

Extent of Elk River TMDL Analyses

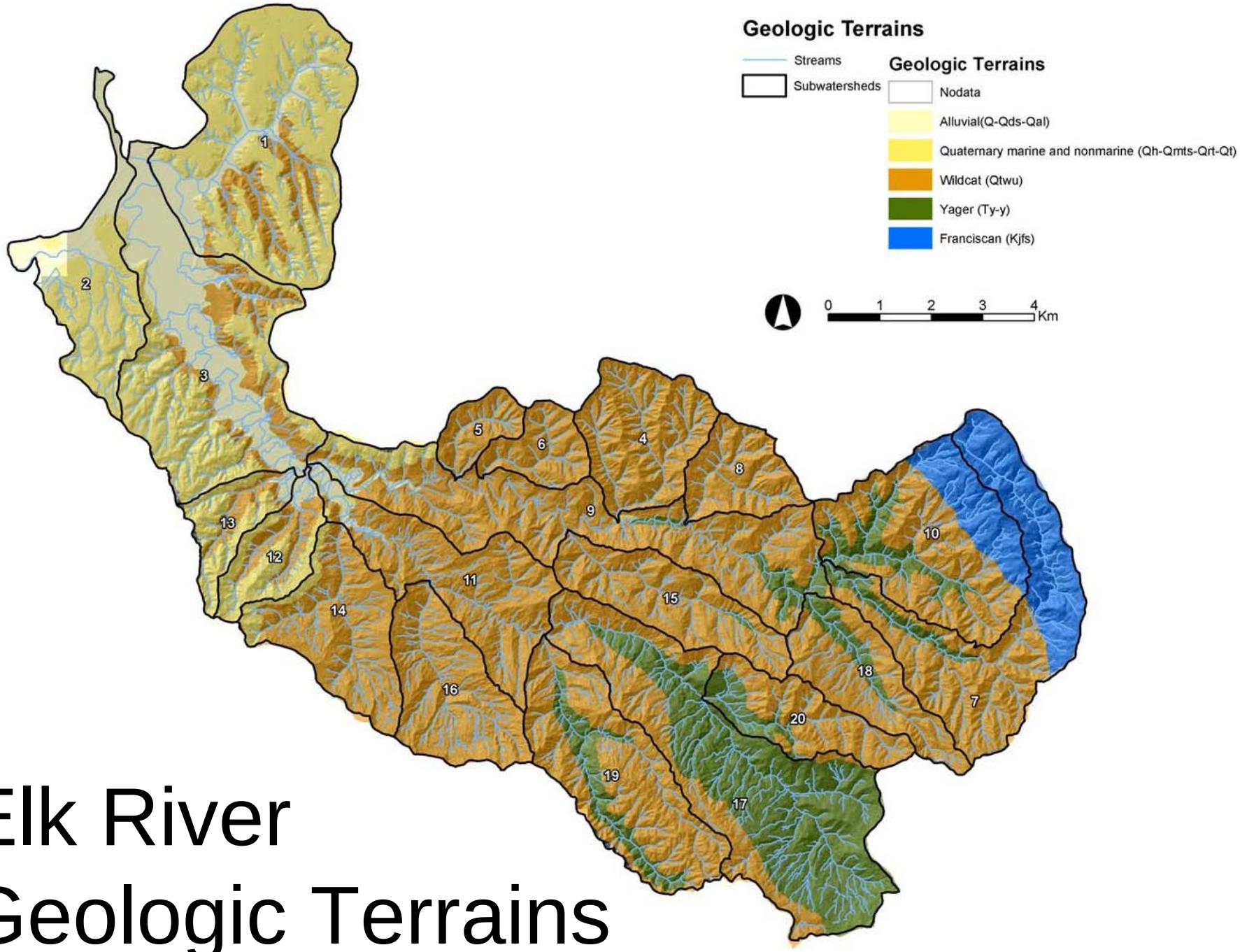
58.3 square miles

- North Fork Elk River (22.5mi^2)
- South Fork Elk River (19.5 mi^2)
- Lower Elk River (10.4 mi^2)
- Martin Slough (5.9 mi^2)



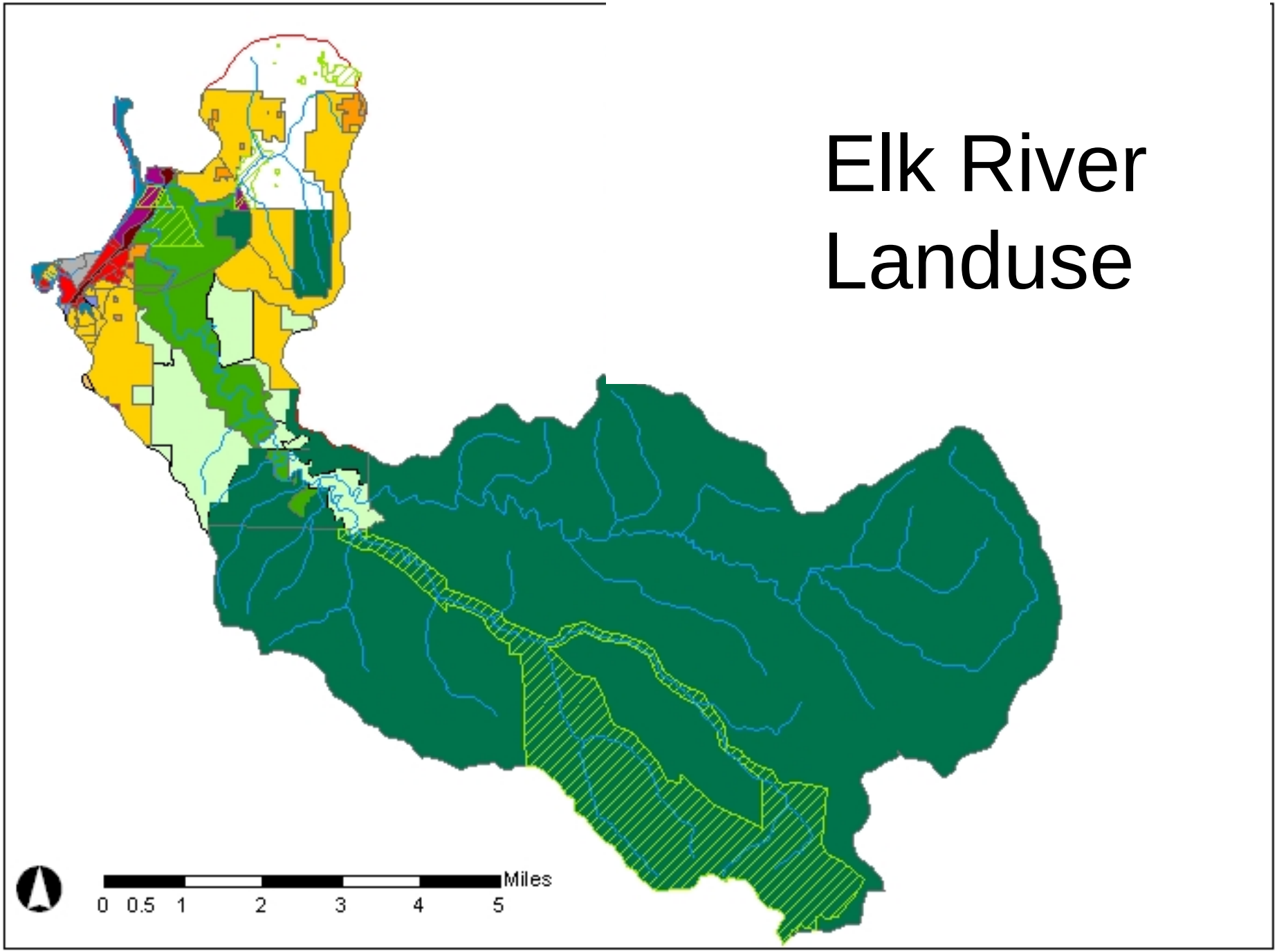
Elk River Hillslope Gradient

Stillwater Sciences VESTRA Curry Group Inc.



Elk River Geologic Terrains

Elk River Landuse



Beneficial Use Impairment

Water Supplies and Fisheries Habitat Impaired

- Winter Conditions: High suspended sediment concentrations and durations
  - Limit water withdrawals
  - Damage equipment and require more frequent maintenance
  - Indicate physiological stress and limited feeding
- Summer Conditions
  - Lack of pools limit storage
  - High tannins, low DO, and increase in aquatic growth (e.g. duck weed)

Exceedence of Water Quality Objectives

- Suspended sediment concentrations limit fisheries and water supplies
- Ongoing deposition of settleable material reduces cross-sectional areas, contributing to nuisance flooding conditions.
- Elevated suspended sediment loads
- Turbidities are elevated, exceeding the numeric objective.

Source Analysis:
Upper Watershed (North and South Forks)

- Steep hillslopes, transport reaches
- Industrial timber lands, BLM
- Focus of Regional Water Board efforts 1997-present
- Extensive site specific data at subbasin scale for multiple photo periods (1954-2003)
- Past and future delivery to assist in informing ongoing cleanup efforts by subbasin
- Dominant Sources
  - Open-slope landslides
  - Controllable sediment discharge sites
  - Roads
  - Channel extension and bank erosion

Source Analysis:
Mainstem

- Gentler slopes, depositional reach
- Rural residential and grazing uses
- Limited site specific data
- Implementation program will include monitoring to address data deficiency
- Dominant sources:
  - Controllable sediment discharge sites
  - Bank erosion
  - Scour of in channel deposits

Source Analysis:
Martin Slough

- Gentle slopes
- Higher density residential and urban uses
- Limited site specific data
- Implementation program will include monitoring to address data deficiency
- Dominant Sources:
  - Controllable sediment discharge sites
  - Roads
  - Bank Erosion
  - Channel scour

Approach to Load Allocations

- TMDL = Natural + Management + MOS
- Natural = Reference conditions
  (Headwaters)
- Management = controllable + uncontrollable

Implementation Program

- Prioritize actions based on dominance of landuse activity, delivery volume of associated sources, and potential for improvement
- Recommend regulatory tools
- Prevent discharges in planning and minimize remaining discharges during project implementation
- Comply with NPS Policy (WDRs, Waivers, or Prohibitions)
- Schedule will include implementation time schedule for prevention and minimization measures and correction of dominant sediment sources

Prohibition on Discharge of Excess Sediment

(New, Elk River specific)

- Would apply to all activities that have potential to discharge excess sediment for which no regulatory coverage (WDR or Waiver) is in place
- New Projects
  - should be planned, designed, and implemented in such a manner to Prevent and Minimize excess sediment discharge
- Existing Sources
  - Inventory, Prioritize, Implement, Monitor, Adapt

Industrial Timber Lands

WWDR

(Revise existing WWDRs, Elk River specific)

- Management Plan (inventory, prioritize, implement, monitor, adapt)
- Prevention measures
- Effluent Limitation

Non-Industrial Timber Lands
Conditional Waiver
(Existing Regional or Elk specific)

- Management Plan (inventory, prioritize, implement, monitor, adapt)
- Prevention measures

If landowner(s) do not elect to enroll under Conditional Waiver, a report of waste discharge could be submitted to inform development of an individual (or group) WDR

Agricultural and Grazing Activities
Conditional Waiver
(New: Either Regional or Elk specific)

- NPS Pollution prevention plan
  - Description of the landuse activities and site conditions.
  - Assessment of quantity and discharge routes of waste to surface and groundwaters.
  - Prevention and minimization measures (BMPs) to control discharges of waste.
  - Monitoring program
  - Schedule for implementing BMPs and monitoring

If landowner(s) do not elect to enroll under Conditional Waiver, a report of waste discharge could be submitted to inform development of an individual (or group) WDR

BLM Headwater Forest Reserve

Conditional Waiver

(New)

- Management Plan
  - Consistent with existing Headwater Forest Management Plan
- Treat existing sources
  - Inventory
  - Prioritize
  - Implement
  - Monitor
  - Adapt
- Investigation and mitigation strategy for mass wasting features

Lower Elk River Restoration and Enhancement

- Develop Lower Elk River Restoration and Enhancement Plan (2-5 years)
  - Improve conditions for beneficial uses and abate nuisance flooding
- Record supports need
- Broad partnership and cost-shares
- Implement restoration actions (5-10 years from now)
- Action Plan to propose restoration exemption criteria for large scale projects (with EIR)

Stormwater

- TMDL to recommend designation of rapidly growing areas adjacent to but outside the Eureka city limits as a Phase II Municipality for NPDES coverage

- Require the development of a stormwater management program consistent with the new *State Water Resources Control Board NPDES Permit for Phase II Stormwater*

Humboldt County Stormwater
NPDES Permit: Phase II MS4

(New)

- Develop a stormwater management program consistent with the new Phase II MS4 permit and TMDL Action Plan which addresses the following elements:
  - Develop ordinances to control runoff from construction sites. Conduct inspections to verify ordinance compliance and enforce appropriately.
  - Incorporate Low Impact Development (LID) planning in community development plans and require LID on individual projects
  - Implement post-construction BMPs
  - Hydromodification analysis and control

City of Eureka Stormwater

NPDES Permit: Phase II MS4

(Revise existing Stormwater Management Plan and ordinances pursuant to new Phase II MS4 and TMDL Action Plan)

- Revise management program to comply with the new Phase II stormwater permit to addresses the following elements:
  - Develop ordinances to control runoff from construction sites. Conduct inspections to verify ordinance compliance and enforce appropriately.
  - Incorporate Low Impact Development (LID) planning in community development plans and require LID on individual projects
  - Implement post-construction BMPs
  - Hydromodification analysis and control

Humboldt County Roads
Conditional Waiver

(New)

- Update and maintain an inventory of existing sediment discharge sites
- Treat existing sources
  - Inventory
  - Prioritize
  - Implement
  - Monitor
  - Adapt

Elk River TMDL – Schedule

- May ‘09 - Preliminary drafts of Watershed Overview and Problem Statement available
- May/June ’09 - CEQA Scoping
- Oct ‘09 - Regional Board meeting workshop;
  - Internal review of draft staff report
- November ‘09 - Send peer review draft
- November 10, 2009 - Public Workshop in Eureka
- February ’10 - Receive peer review comments

For further information, and to download TMDL documents for review and comment:

http://www.waterboards.ca.gov/northcoast/programs/tmdl/elk

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